

PATENT COOPERATION TREATY
PCT
INTERNATIONAL PRELIMINARY EXAMINATION REPORT
(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 20912-095602		FOR FURTHER ACTION See Notification of Transmittal of International - Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/US03/36105	International filing date (day/month/year) 12 November 2003 (12.11.2003)	Priority date (day/month/year) 12 November 2002 (12.11.2002)	
International Patent Classification (IPC) or national classification and IPC IPC(7): B21D 26/02; 28/28 and US Cl.: 29/421.1			
Applicant COSMA INTERNATIONAL, INC.			

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 3 sheets, including this cover sheet.

This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of ___ sheets.

3. This report contains indications relating to the following items:

- I Basis of the report
- II Priority
- III Non-establishment of report with regard to novelty, inventive step and industrial applicability
- IV Lack of unity of invention
- V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI Certain documents cited
- VII Certain defects in the international application
- VIII Certain observations on the international application

Date of submission of the demand 09 June 2004 (09.06.2004)	Date of completion of this report 18 March 2005 (18.03.2005)
Name and mailing address of the IPEA/US Mail Stop PCT, Attn: IPEA/US Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450 Facsimile No. (703) 305-3230	Authorized officer <i>Sharon P. Greene for David P. Bryant</i> Telephone No. 703-308-1146

I. Basis of the report

1. With regard to the elements of the international application:*

 the international application as originally filed. the description:pages 1-7 as originally filedpages NONE, filed with the demandpages NONE, filed with the letter of _____. the claims:pages NONE, as originally filedpages NONE, as amended (together with any statement) under Article 19pages NONE, filed with the demandpages 8-10, filed with the letter of 24 January 2005 (24.01.2005) the drawings:pages 1-4, as originally filedpages NONE, filed with the demandpages NONE, filed with the letter of _____. the sequence listing part of the description:pages NONE, as originally filedpages NONE, filed with the demandpages NONE, filed with the letter of _____.

2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language _____ which is:

 the language of a translation furnished for the purposes of international search (under Rule 23.1(b)). the language of publication of the international application (under Rule 48.3(b)). the language of the translation furnished for the purposes of international preliminary examination (under Rules 55.2 and/or 55.3).

3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

 contained in the international application in printed form. filed together with the international application in computer readable form. furnished subsequently to this Authority in written form. furnished subsequently to this Authority in computer readable form. The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished. The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.4. The amendments have resulted in the cancellation of: the description, pages NONE the claims, Nos. NONE the drawings, sheets/fig NONE5. This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).**

* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17).

** Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International Application No.
PCT/US03/04098

V. Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. STATEMENT

Novelty (N)	Claims 1-10	YES
	Claims NONE	NO
Inventive Step (IS)	Claims 1-10	YES
	Claims NONE	NO
Industrial Applicability (IA)	Claims 1-10	YES
	Claims NONE	NO

2. CITATIONS AND EXPLANATIONS

Claims 1-10 meet the criteria set out in PCT Article 33(2)-(3), because the prior art does not teach or fairly suggest the steps of striking the removable wall section to separate it from the blank, or moving the hydroformed member out of the die assembly before removing the removable wall section therefrom.

Claims 1-10 meet the criteria set out in PCT Article 33(4), and thus exhibit industrial applicability because the subject matter claimed can be made or used in industry.

What is claimed:

1. A method of manufacturing a hydroformed member comprising the steps of:
providing a blank defined by a blank wall;
placing the blank in a die assembly having a die cavity defined by a die surface;
expanding the blank to force the blank wall against the die surface and form the hydroformed member;
conforming a portion of the blank wall against a wall-thinning element positioned along the die surface to form a removable wall section in a portion of the blank wall; and
removing the removable wall section from the blank wall to form an opening in the hydroformed member.
2. A method as set forth in claim 1 wherein the expanding step includes introducing pressurized fluid into the die cavity.
3. A method as set forth in claim 2 wherein the removing step includes striking the removable wall section.
4. A method as set forth in claim 3 wherein the removing step includes striking the removable wall section multiple times.
5. A method as set forth in claim 1 including the step of moving the hydroformed member out of the die assembly prior to the step of removing the removable wall section from the blank wall to form the opening in the hydroformed member.
6. A method as set forth in claim 1 wherein the conforming step includes partially fracturing a portion of the blank wall surrounding the removable wall section.
7. A method of manufacturing a hydroformed member with an opening using a blank, having a blank wall and a removable wall section, and a die assembly having a die cavity, a die surface defining the die cavity, and at least one wall-thinning element disposed along a portion of the die surface, the method comprising the steps of:
placing the blank in the die cavity;
expanding the blank to force the blank wall against the die surface;

conforming a portion of the blank wall to the wall-thinning element to form the removable wall section; and

removing the removable wall section from the blank wall to form the opening in the hydroformed member.

8. A method as set forth in claim 7 wherein the expanding step includes introducing pressurized fluid into the die cavity.

9. A method as set forth in claim 8 wherein the removing step includes striking the removable wall section.

10. A method as set forth in claim 9 wherein the removing step includes striking the removable wall section multiple times.

11. A method as set forth in claim 7 including the step of moving the hydroformed member out of the die assembly prior to the step of removing the removable wall section from the blank wall to form the opening in the hydroformed member.

12. A method as set forth in claim 7 wherein the conforming step includes partially fracturing a portion of the blank wall surrounding the removable wall section.